New or Rarely Reported Lichens for Thrace, Greece

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Published in:
Herzogia

DOI:
10.13158/heia.31.1.2018.390

Publication date:
2018

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Abstract: Christensen S.N. 2018: New or rarely reported lichens for Thrace, Greece. – Herzogia **31**: 390–394.

Forty five species are reported from Thrace. Tree taxa, *Cladonia caespiticia*, *Dermatocarpon luridum*, and *Vahliella leucophaea*, are new to the Greek mainland, and 34 taxa are new to Thrace. This is at the same time a first record of lichens on *Quercus frainetto* in Greece.

Zusammenfassung: Christensen S.N. 2018: Neue und seltene Flechten von Thrakien, Griechenland. – Herzogia **31**: 390–394.

Es werden fünfundvierzig Flechten aus Thrakien gemeldet. Drei Arten (*Cladonia caespiticia, Dermatocarpon luridum* und *Vahliella leucophaea*) sind neu für das griechische Festland, vierunddreißig Arten sind neu für Thrakien. Erstmals werden Flechten auf *Quercus frainetto* in Griechenland nachgewiesen.

Key words: *Quercus frainetto*, lichenized fungi, Rhodope Mountains

Introduction

The knowledge of the Greek lichenized mycota is gradually increasing (see references in Christensen 2018). Lichenologists and other collectors have travelled in many parts of the country though some parts are still only little explored. Thrace (Θράκη) in particular has almost been ignored by lichen collectors. With only 32 recorded species Thrace is the least known province of Greece (Abbott 2009). Arcadia (2018), however, state the number for Thrace to be 40. For the regional units ('nomi') Evros, Rodopi, and Xanthi only 19, 0 and 14 taxa are reported, respectively (Abbott 2009, Arcadia 2018). This paper is a small contribution to increase the knowledge of the lichens inhabiting this north-easternmost part of mainland Greece. A first record of the lichens on *Quercus frainetto* is given.

Materials and methods

Specimens were determined using standard procedures (Smith et al. 2009), except that thin-layer chromatography and other chromatographic techniques were not available.

The specimes are deposited in Natural History Museum of Denmark, Botanical Garden & Museum, Copenhagen (C), in Botanical Garden & Museum, Berlin-Dahlem (B) and in the authors private herbarium. No papers dealing with the lichen mycota of Thrace have appeared since the Greek checklist (Abbott 2009) was published, so the presence and absence of the collected species were only checked against this work. Taxa not included in Abbott (2009) were checked against subsequent papers (see Christensen 2018).

Unfortunately two consecutively collected specimens (*Cladonia fimbriata* and *C. glauca*) were given the same number (15871). To indicate that it is not a divided specimen *C. fimbriata* is given the number 15871x.

To facilitate comparisons with previous publications a conservative view of nomenclature and taxonomy in Collemataceae is taken (new names are given in parentheses).

The localities

Geographical names of the localities follow " Θράκη, Thrace, 1:200.000, Orama Editions, Travel Bookstore, Athens".

1) Nomos Xanthis: about 26 km NNE of Xanthi town, E of the village Kidaris, Rodopi Mts, E of Mt Therma (897 m). 41°21.066'N 25°01.649'E. Open sheep and goat grazed *Quercus frainetto* woodland with *Acer monspessulanum* and *Carpinus* on small ridge with limestone outcrops. On trunk of *Quercus frainetto*. Alt. 698 m. 14.09.2017.

2) Nomos Xanthis: about 15 km NNW of Stauroupoli town, about 2½ km N of the village Livaditis, Rodopi Mts, at the Livaditis water fall. 41°19.639'N 24°40.316'E. *Fagus* wood. N sloping ravine with water fall. Bedrock: quartzite. On boulder in the river bed. Alt. 896 m. 15.09.2017.

3) Nomos Xanthis: about 15 km NNW of Stauroupoli town, about 2½ km N of the village Livaditis, Rodopi Mts, along the path from Livaditis water fall to the gazebo at the forest track. 41°19.606'N 24°40.438'E. *Fagus* wood on N slope, incl. 40°. Bedrock: granite. Alt. 930–974 m. 15.09.2017.

4) Nomos Xanthis: about 14 km WNW of Xanthi town, 2½ km E of Stauropolis. 41°12'20.5"N 24°43'28.6"E. SW sloping mountain side. Road cutting in limestone rocks. On ledges. Alt. 275 m. 26.09.2015.

List of species

** designates new to the Greek mainland; * designates new to Thrace; *Q.f.* = *Quercus frainetto*

* ***Amandinea punctata*** (Hoffm.) Coppins & Scheid. – On trunk of *Q.f.;* **1**: (with *Lecanora chlarotera* 15838, *Lecanora rugosella* 15854).

* ***Buellia erubescens*** Arnold – On trunk of *Q.f.;* **1**: 15850, (with *Lecanora chlarotera* 15858).

* ***Caloplaca ferruginea*** (Huds.) Th.Fr. – On trunk of *Q.f.;* **1**: 15840.

** ***Cladonia caespiticia*** (Pers.) Flörke – On earth brink along path; **3**: 15875.

* ***Cladonia fimbriata*** (L.) Fr. – On moss and litter on the ground; **3**: 15871x.

Cladonia foliacea (Huds.) Willd. – On moss on shallow soil on limestone ledge; **4**: 15371. – Not stated for Thrace by ABBOTT (2009), recorded, however, by SZATALA (1940).

* ***Cladonia glauca*** Flörke – On moss on the ground; **3**: 15871.

* ***Cladonia pocillum*** (Ach.) Grognot – On moss on shallow soil on limestone ledge; **4**: 15367.

* ***Cladonia pyxidata*** (L.) Hoffm. – On moss among exposed *Fagus* roots; **2**: 15864.

* ***Collema crispum*** (Huds.) F.H.Wigg. (*Blennothallia crispa* (Huds.) Otálora et al.) – On shallow soil on limestone ledge; **4**: 15370.

* ***Collema cristatum*** (L.) F.H.Wigg. (*Lathagrium christatum* (L.) Otálora et al.) – On moss on shallow soil on limestone ledge; **4**: 15366.

* ***Collema flaccidum*** (Ach.) Ach. – On bark at the base of trunk of *Q.f.* and on quartzite rock wall; **1**: 15852. **2**: 15861, 15870.

* ***Collema furfuraceum*** (Arnold.) Du Rietz – On trunk of *Q.f.;* **1**: 15843.

* ***Collema subflaccidum*** Degel. – On trunk of *Q.f.;* **1**: 15857.

*** *Collema tenax*** (Sw.) Ach. (*Enchylium tenax* (Sw.) Gray) – On shallow soil on limestone ledge; **4**: (with *Collema crispum* 15370).

**** *Dermatocarpon luridum*** (With.) J.R.Laundon – On quartzite rock in the stream; **2**: 15868.

Flavoparmelia caperata (L.) Hale – On bark at the base of trunk of *Q.f.;* **1**: 15841. – Two previous records from Thrace (Abbott 2009).

*** *Lecanora chlarotera*** Nyl. – On trunk of *Q.f.;* **1**: 15838, 15858.

*** *Lecanora intumescens*** (Rebent.) Rabenh. – On trunk of *Q.f.;* **1**: 15851.

*** *Lecanora pruinosa*** Chaub. – On limestone ledge; **4**: 15369.

*** *Lecanora pulicaris*** (Pers.) Ach. – On trunk of *Q.f.;* **1**: (with *Lecanora intumescens* 15851.)

******Lecanora rugosella*** Zahlbr. – On trunk of *Q.f.;* **1**: 15846, 15854.

*** *Lecidella euphorea*** (Flörke) Kremp. – On trunk of *Q.f.;* **1**: (with *Lecanora rugosella* 15846).

*** *Leptogium cyanescens*** (Ach.) Körb. – On moss on granite outcrop; **3**: 15872. – According to Abbott (2009) not known from the Greek mainland, but subsequently recorded by Christensen (2014) from Epirus.

Leptogium lichenoides (L.) Zahlbr. (*Scytinium lichenoides* (L.) Otálora et al.) – On moss on quartzite rock wall, on moss on quartzite boulder in stream and on moss on granite outcrop; **2**: 15863, 15865, 15866. **3**: 15873. – One previous record for Thrace (Abbott 2009).

*** *Melanelixia glabratula*** (Lamy ex Nyl.) Sandler Berlin & Arup – On trunk of *Q.f.;* **1**: 15847.

*** *Melanohalea exasperatula*** (Nyl.) O.Blanco et al. – On trunk of *Q.f.;* **1**: (with *Buellia erubescens* 15850).

*** *Ochrolechia szatalaensis*** Verseghy – On trunk of *Q.f.;* **1**: 15845.

*** *Ochrolechia turneri*** (Sm.) Zopf – On trunk of *Q.f.;* **1**: 15856.

Parmelia sulcata Taylor – On trunk of *Q.f.;* **1**: 15844. – Reported from three localities in Thrace (Abbott 2009).

*** *Parmelina quercina*** (Willd.) Hale – On trunk of *Q.f.;* **1**: 15834, 15859.

Parmelina tiliacea (Hoffm.) Hale – On trunk of *Q.f.;* **1**: 15835, 15848. – Reported from one locality in Thrace (Abbott 2009).

*** *Peltigera praetextata*** (Flörke ex Sommerf.) Zopf – On moss on quartzite boulder in stream and on moss on granite boulder; **2**: 15867. **3**: 15874.

*** *Pertusaria albescens*** (Huds.) M.Choisy & Werner var. ***albescens*** – On trunk of *Q.f.;* **1**: 15833, 15849, 15855.

Pertusaria hymenea (Ach.) Schaer. – On trunk of *Q.f.;* **1**: 15853. – One previous record for Thrace (Abbott 2009).

*** *Pertusaria pertusa*** (Weigel) Tuck. var. ***pertusa*** – On trunk of *Q.f.;* **1**: 15839.

*** *Physcia aipolia*** (Ehrh. ex Humb.) Fürnr. – On trunk of *Q.f.;* **1**: 15842.

*** *Physcia dubia*** (Hoffm.) Lettau – On quartzite rock wall; **2**: 15862 (*teretiuscula* type).

*** *Physconia enteroxantha*** (Nyl.) Poelt – On trunk of *Q.f.;* **1**: 15860.

*** *Physconia servitii*** (Nàdv.) Poelt – On trunk of *Q.f.;* **1**: (with *Ochrolechia turneri* 15856).

Pleurosticta acetabulum (Neck.) Elix & Lumbsch – On trunk of *Q.f.;* **1**: 15837. – Known from four localities in Thrace (Abbott 2009).

*** *Rinodina pyrina*** (Ach.) Arnold – On trunk of *Q.f.;* **1**: (with *Lecanora chlarotera* 15838, *Lecanora rugosella* 15854).

*** *Sarcogyne regularis*** Körb. – On limestone ledge; **4**: 15368.

**** *Vahliella leucophaea*** (Vahl) P.M.Jørg. – On granite outcrop in *Fagus* wood. **3**: Shade form with discrete blue-grey squamules on a prominent black hypothallus (cf. JØRGENSEN 1978). Not collected due to its position on the middle of a smooth surface – photographically documented.

Xanthoria parietina (L.) Th.Fr. – On trunk of *Q.f.* **1**: 15836. – Known from four localities in Thrace (ABBOTT 2009).

Discussion

Cladonia caespiticia (one earlier report of uncertain position, probably Corfu, ABBOTT 2009), *Dermatocarpon luridum* (reported once from Crete, ABBOTT 2009), and *Vahliella leucophaea* (known from Crete, ABBOTT 2009) are new to the Greek mainland. This paper reports 45 lichens for Thrace, increasing the number of known lichen species in Thrace from 32 to 69 and for nomos Xanthi from 14 to 51. The fact that 37 of the collected 45 lichen species are new to Thrace underlines the poor knowledge of this north-easternmost part of the Greek mainland. *Dermatocarpon luridum* hitherto known from Crete only occurs in all likelihood in more riverine environments throughout Greece as this seems to be a biotope that is currently under-collected.

MUGGIA et al. (2018) investigated sacred groves in Epirus. The dominant trees in the groves were different oak species, among them *Quercus frainetto*. It is, however, not possible to see from their species list which lichen species grew on *Q. frainetto*. Hence, the species list brought here is the first proper report on lichens on *Quercus frainetto* in Greece (loc. 1). The site was an open *Quercus frainetto* woodland with *Acer monspessulanum* and *Carpinus* on a small ridge with limestone outcrops. A shepherds summer camp was at the margin of the woodland and herds of sheep and goats were grazing the grassland below and between the trees. The lichen species found mainly belong to the Xanthorion alliance, an assembly of corticolous species on well lit and nutrient enriched bark in moderately humid environments (KLEMENT 1955, JAMES et al. 1977). The genus *Quercus* generally has acidic and nutrient poor bark, but judged from the species composition the dry, dusty limestone environment and the nutrient enrichment of the goat and sheep dung have made the bark more basic and nutrient rich.

Epigeic and epilithic lichens were collected from a north sloping dense *Fagus sylvatica* wood in a ravine (loc. 2 & 3). *Cladonia caespiticia, C. fimbriata, C. glauca,* and *C. pyxidata* are all common and widespread species in *Fagus* woods in Europe. *Collema flaccidum, Leptogium cyanescens, L. lichenoides*, *Peltigera praetextata,* and *Vahliella leucophaea,* growing either directly on rock or among moss on rock, occur in humid forest environments.

Cladonia foliacea, C. pocillum, Collema crispum, C. cristatum, C. tenax, Lecanora pruinosa, and *Sarcogyne regularis* (loc. 4) all occur commonly on sun-exposed limestone rocks in Greece.

Acknowledgements

This paper is dedicated to Helmut MAYRHOFER in recognition of his substantial contribution to the lichenized mycota of the Balkans.

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Manuscript accepted: 12 February 2018

Communicated by: Philipp Resl

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